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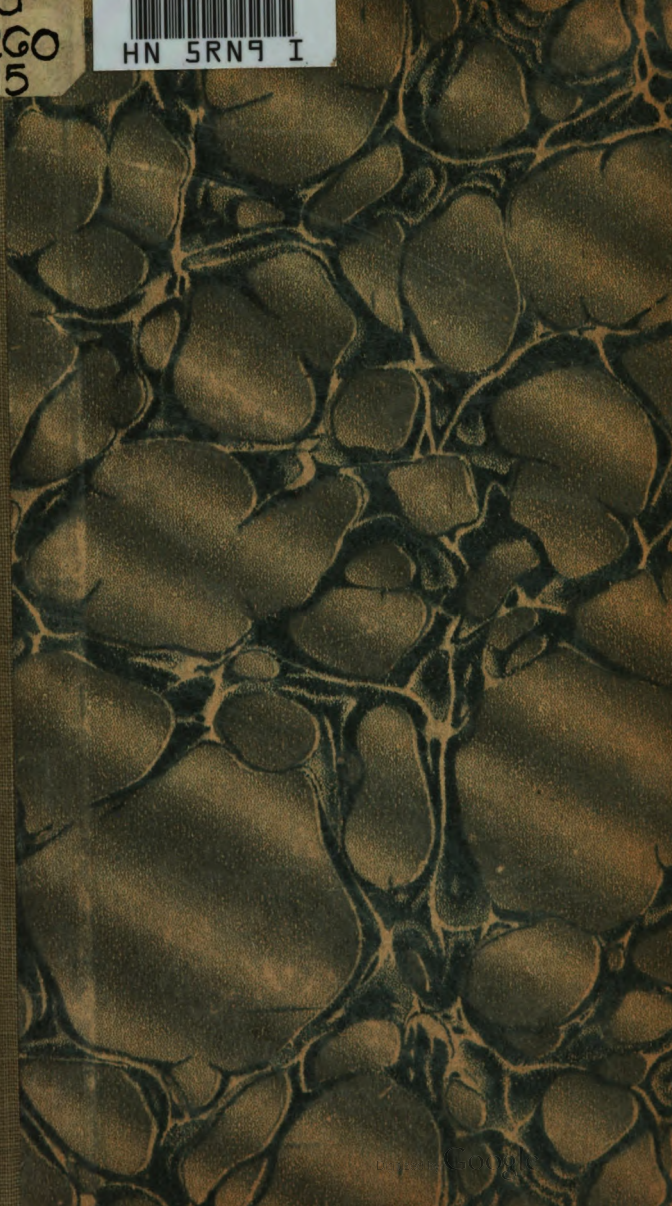
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Fletcher-ABC of Snap Shooting. 1880

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January 11, 1921

A.B.C.
OF
SNAP SHOOTING
BY HORACE FLETCHER



SPORTING, EXHIBITION, AND MILITARY.

PUBLISHED BY THE AUTHOR.
SAN FRANCISCO, 1880.

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PREFACE.

MY OBJECT in publishing this little book is to explain a method of teaching Snap Shooting, by using the rifle in practice, which, by its economy, ease, quickness, and fascination, will recommend itself to any who are desirous of becoming skillful in the use of firearms.

It is true that by this method almost any one can make himself a good snap shot in a few weeks or months, according to the amount of practice indulged in, and that too at very small cost.

I make no claim for it, except that having received the original idea from Dr. Carver, I have demonstrated for myself and seen several friends demonstrate its practicability beyond a doubt.

I submit it for what it may be worth.

HORACE FLETCHER.

SNAP SHOOTING DEFINED.

Snap shooting is the throwing of both the rear and front sights of a gun into line between the eye and the target and pulling the trigger, all in one motion, and is distinguished by that name from any shooting where the aim is leisurely taken, by bringing the piece to the shoulder, getting the sights in line, hunting the target and pulling the trigger when the aim is most steady.

ANOTHER DEFINITION.

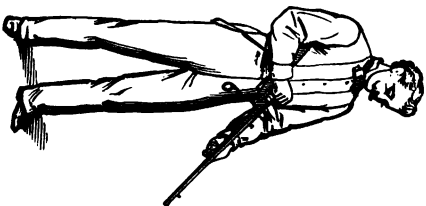
In snap shooting, the eye catches the target, and the attention is riveted on it, while the piece comes into line instinctively.

In other shooting, the attention is turned from the target to the gun and sights, and after getting them in line, is returned to the target.

The practice of snap shooting does not interfere with aiming at leisure, but aiming at leisure unfits one for snap shooting.

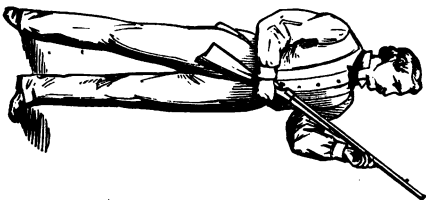
When the face is in danger, the hand comes before it instinctively to protect it; and in the same manner when a target appears the gun should as instinctively and quickly find its place in line between it and the eyes.

This is necessary to the perfect *snap shot*.



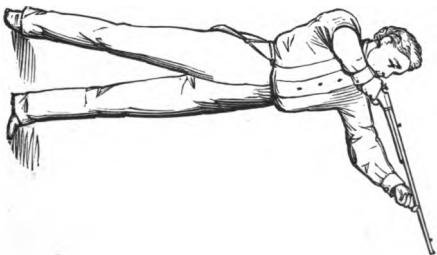
**First Position.
LOADING.**

After inserting the cartridge, close the breech and swing the piece up to the Second Position.



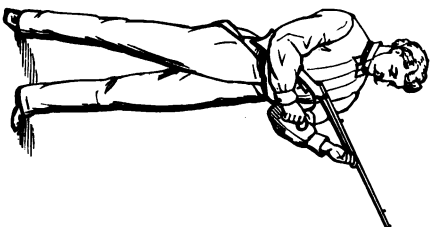
**Second Position.
READY.**

The piece should be cocked only in this position.



**Third Position.
AIMING.**

After firing, drop the piece immediately to the Fourth Position.



**Fourth Position.
EXTRACTING.**

Extract and re-load as quickly as possible in order to be ready to fire again.

RULES OF SAFETY.

The following rules of safety should *never* be disregarded:

1. On taking a firearm in your hands, see for yourself if it be loaded or not, and *never* take any one's word for it.
 2. Keep the muzzle of a loaded gun above the level of the eye, and hold a pistol at a corresponding angle.
 3. Handle *all* firearms as if loaded.
-

NOTE.—*The Numbers scattered through "The Outfit," and "Rules of Practice," refer to paragraphs further on, correspondingly numbered, which are explanatory of terms used, and give the reasons for the suggestions offered.*

This plan relieves the pith of the book from any confusing element.

THE OUTFIT.

Three¹ persons purchase a .22³ calibre rifle,² having a shot-gun⁴ stock, and buck-horn⁵ or clover-leaf rear sight, a supply of short cartridges,⁶ and a Fletcher bell-ball.⁷

The place for practice should be open⁸ ground, or in front of a bulkhead,⁹ at least twenty-five feet in height, and three soft pine boards in thickness.

RULES FOR PRACTICE.

1. Each should take his turn in the positions of **FIRER**, **TOSSE**R, and **SCORER**.¹⁰

2. The **TOSSE**R should stand ten¹¹ feet distant from the **FIRER**, with his side¹² to him, and toss the bell-ball about fifteen¹³ feet high, and so that it will fall on soft ground,¹⁵ two or three¹⁴ feet in front of where he (the **Tosser**) is standing.

3. The **FIRER** should disencumber his shoulders of anything that in any way interferes with their free action, by removing his coat, vest and suspenders, and stand firmly¹⁶

on his feet, holding the rifle with the stock below his right¹⁷ elbow, the muzzle above the level of the eye,¹⁸ and his left hand clasping the barrel as far out¹⁹ as it can reach with ease when the rifle is brought to the shoulder in aiming.

4. The instant²⁰ the ball is tossed, the rifle should be brought to the shoulder with as quick a motion as possible, regardless of the speed the bell seems to have.

5. When the bell has reached its greatest²¹ elevation, just see it full²² over the line of both²³ sights and pull the trigger.²⁴

6. The rifle should not be allowed to get²⁵ foul, but cleaned before any burned powder has accumulated in the grooves.²⁶

7. Practice at balls thrown straight²⁷ up to a uniform height should continue till tolerable proficiency, say the average hitting of 80 per cent., has been attained, when the direction should be changed gradually to that of a curve, which lengthened out sufficiently constitutes the CROSS-SHOT.²⁸

8. The DROP-SHOT is the following of a bell, from its summit down to within one or two²⁹ feet of the ground and hitting it there.

9. The INCOMING-SHOT³⁰ is at a ball thrown at the firer from a distance of say 50 feet, and is the easiest of all; but unless thrown so as to go above his head, and caught by him in passing over, is not recommended, owing to the danger to the tosser. If a trap be used it is safe and good practice.

10. The TRAP-SHOT is the most difficult, requires the quickest³¹ action, and is consequently the very best prac-

tice, and is the hitting of balls thrown straight away from the firer by a spring-trap, or by hand, so that they fall not more than twenty-five feet distant.

11. The above are the cardinal directions, but any variety of shots can be made at will after these have been mastered.

12. Shooting at a bell-ball, suspended by a wire or cord, which can be done indoors, is excellent practice. The bell is made to swing, and as each hit gives it a new motion a variety of shots can be tried.

13. Balls *only*³² should be used as flying targets, for the reason that a bullet may pass very near the center of an irregularly-shaped object, and not hit it, the miss conveying an erroneous impression of the aim.

14. Quickness³¹ of action is *most* important in snap shooting, not only in firing but in loading.

15. Reload your piece immediately after discharging it, and be ready to fire again. That you may accustom yourself to be quick in all your movements, try how many³³ times you can fire, reload, and hit a bell-ball thrown up perpendicularly in a given time, say one or two minutes.

NOTE.—*100 consecutive misses at first will not indicate an inability to learn to hit. Perseverance and attention to the suggestions here given will make one a good snap shot in less time than may at first seem possible.*

EXPLANATION.

1. Economy facilitates practice by removing the dread of expense which takes the keen edge off of any sport and discourages it.

The expense of an outfit, consisting of a rifle, one thousand cartridges, and a bell-ball is less than twenty-five dollars, which divided between three persons is very light.

Three persons can work together to advantage by taking the positions of firer, tosser and scorer, and benefit by friendly competition.

2. The rifle should be the elementary arm used in practice, and be handled with success on all the shots before the shotgun is taken up.

True impressions only should be given the learner, which the rifle does, and the shotgun does not, give.

Occasionally, the scattering of shot may allow an object to drop without being hit, when the gun has been held right on it, and again, a stray shot may hit, when the aim has been high, low, or to one side, in both of which cases the impressions given the firer are erroneous.

With the rifle this cannot occur, and every time one makes a hit he has received a true impression of the position the sights should hold relative to the bell.

3. Rifles of .22 calibre are the best to use in practice, for several reasons:

1. The expense of shooting them is very light, owing to the low cost of the cartridges.

2. Because there is no perceptible recoil, which is an important consideration, inasmuch as the *finching* which a

beginner does involuntarily, if he stand behind a kicking rifle at first, is very hard to overcome; but which he avoids when he has learned to hold his gun firm against his shoulder and to brace against it.

3. The rifle does not heat quickly, and in cool weather can be fired one hundred times without becoming hot. The reasons for this are the thickness of the barrel, and the small quantity of powder burned in each cartridge.

4. It has a light report, scarcely louder than the cracking of a whip, and can be used anywhere without being a nuisance on that account. In hunting birds or squirrels in a wood, this advantage is considerable, because the report does not frighten the game any more than the breaking of a twig, and one can move about within a limited space, shooting many times at the same game, if not successful in hitting it at first, whereas a noisy gun would clear the neighborhood after each discharge.

5. These rifles are a desirable weight, being not lighter than about seven pounds, and shoot accurately at ranges of two hundred and three hundred yards. It is true that light bullets are more easily affected by the wind than heavy, but the ranges are generally less than one hundred yards, and in any case it is easy to make allowance.

4. It used to be the fashion to make rifle stocks with projecting points to fit around the shoulder, which was all right for target practice, but in snap shooting there should be nothing to catch the sleeve, and consequently the shot-gun stock is recommended.

In case your rifle has the points, have the upper one, at least, cut off.

The lower one is no objection, if the stock has sufficient drop for your length of neck, but if it has not, the catch-

ing at the shoulder will necessitate your ducking your head, which is awkward and detrimental to rapid work.

5. The BUCKHORN and CLOVER LEAF rear sights are shaped as their names would indicate, and the front sight can be brought down into them quicker and easier than into others, and there is less danger of canting the rifle to one side. The buckhorn is preferable to the clover leaf, and both are infinitely better than the flat sight, which has only a niche in it. Any gunsmith can change the sights to suit, or you can put them in yourself if you have them.

In shooting point blank at a given distance, with fine sights, if the rifle shoot low, file off the front sight, which is equivalent to giving elevation to the bore.

6. SHORT CARTRIDGES are preferable, because they hold quite as much powder as will burn in the rifle, cost less than the long, are even more accurate, make less report, and principally because the FLETCHER BELL BALL is not made to resist a heavier charge.

7. The FLETCHER BELL BALL is a metal ball, made up of two hemispherical gongs, joined by a post of the same metal, all cast in one piece, and is about two inches in diameter.

A space between the gongs allows perfect vibration, and being all one piece it rings distinctly, no matter where hit, so that it can be heard several hundred yards.

It is practically indestructible and can be hit thousands of times without being destroyed.

John Ruth of Oakland, California, in an exhibition at Badger's park, in the summer of 1879, hit one nine hundred and ninety times out of one thousand shots fired, leaving it in good condition for further use.

Its advantages over glass balls are:

1. It is inexpensive.
2. It can be carried in the pocket.
3. It avoids broken glass in the fields.
4. It is a perfect indicator of hits, telling by its sound if hit in the dead center, or is only touched.
5. It is a new principle in bells, and has greater resonance than others of the same metal, because the sound passes through the post from the gong which has been hit to the other and is repeated there.

This bell ball was patented August 6, 1878; and for snap shot rifle practice, and as a swinging target in shooting galleries, is very useful and economical.

8. Inasmuch as the bullets are projected high in air in nearly all the shots recommended, and are quite light, when they are spent they are harmless, so that long range is not necessary; but it must be kept in mind, however, that they are projected with much force, and at two hundred or three hundred yards even, have considerable penetration, and great care should be taken in giving them direction.

9. A BULKHEAD to resist short cartridges should be, at least, three soft pine boards in thickness.

10. The keeping of SCORES during practice to show the progress made by each, is beneficial. At first an occasional hit will seem like good shooting, while later an occasional miss will seem to make a bad average, owing to the advanced ideas of the firer, but the scores will determine the true progress. There will be times when the learner will shoot easily and well, and others when he may find it very hard, but practice can develop a skill which will be able to overcome the influence of shaky nerves.

11. The near distance of ten feet is the best range at first because the object is to hit as easily as possible, but later, as proficiency is acquired, the tosser may retire till ten yards is reached, which is far enough for all practical purposes.

12. If the tosser stand with his face to the firer he is apt to divert his attention from the ball, which is in part avoided by turning his side, and is also the proper position for the delivery of the drop and other shots.

13. Fifteen feet of elevation is sufficient, a higher ball being really easier to hit, because the firer is more under it.

14. The ball thrown perpendicularly is of course the easiest to hit, but if it fall in front of the tosser two or three feet, the firer is less liable to be disturbed.

15. The metal of the bell being somewhat brittle, if it happen to fall on a stone or very hard ground in a certain position it will break the post and disable it.

If it fall into mud and fill, or partially fill with it, the sound will be very much deadened.

16. The free use of the shoulders is necessary, and a shooting suit, consisting of loose shirt, and pants which fit the hips closely, made of dark blue flannel to avoid the powder stains showing too plainly, is recommended.

Twenty or thirty cartridges can be carried in the hollow of the left hand, which holds the barrel, and can be got at easily in reloading; but if they interfere with the holding of the rifle, it is better to use a pouch or open-mouthed bag suspended in front of the waist.

It may seem trivial to mention nice points of position, such as standing, which any one might know, but in truth there are many little things which in the aggregate are essential.

Intense earnestness, quickness, firmness, the avoiding of diverting attractions, all help to success though any one may seemingly be disregarded without prejudice.

17. No shot is counted fair unless the stock of the rifle remain below the elbow till the ball has been thrown.

18. After firing, the stock of the rifle is brought down and held between the elbow and the hip by pressure of the elbow, while the shell is extracted; the muzzle is then depressed to an angle of forty-five degrees below the horizontal; the new cartridge inserted and the breech-block forced into place, when the muzzle is brought to its position above the level of the eye and the piece cocked.

It should be a matter of discipline with all to practice these motions with a view to making them a habit, in which there is safety and quickness.

19. The farther out on the barrel you can clasp your gun with your left hand, easily, the better control you will have over it.

It is this advantage that tall men have over short, that makes them frequently better field shots.

20. The importance of quickness of motion, cannot be over-estimated. There is always a tendency to follow the ball up with the rifle, but the first care should be to get the rifle to the shoulder as quickly as possible, when time to aim will be secured before the summit is reached, whereas, tardy action necessitates hurried firing.

21. During the second of time when the ball is at the summit, it does not seem to have any motion, and is, consequently, the best time to hit it.

22. Seeing the ball *full* over the sights, means in reality the allowing for a little drop before the bullet gets there.

23. It is the fault of nearly all beginners to uncover too much of the front sight, and consequently to overshoot. Be careful that the front sight is well down into the rear when you see the object finally, and pull.

24. The pulling of the trigger must be done without hesitation, but quickly as soon as the judgment orders it.

25. The fouling of the rifle will depend on the ammunition used. The author has fired as many as five hundred shots from a rifle without cleaning, while using cartridges of American make, but has not been able to shoot more than ten of those made by Eley Brothers, of London, before cleaning, and as the English cartridges cost just twice as much as the American, the result of the test is strongly in favor of the latter.

26. As soon as burned powder begins to accumulate in the grooves, it tears the bullet, and accuracy is impossible; the digression being sometimes several inches in a ten yards flight.

When bullets tear you can usually hear them hum when they leave the rifle.

27. The practical value in field shooting, gained by the mere hitting of balls thrown up perpendicularly, is not great, but as a preliminary practice it is essential, and should be accomplished before other directions are given to the bell.

28. With practice on the CROSS SHOT, and similar ones, comes the true benefit which is derived from this system, and which will perfect one in field shooting, not only with a shot-gun on birds, but with a rifle on running game.

The instant the bell is thrown for the cross shot, bring the rifle to the shoulder as quickly as possible, take aim

and follow it, firing as you go, *never* stopping the motion to pull the trigger.

29. The DROP SHOT is, perhaps, the prettiest as an exhibition, because the bell is hit just when your spectators think it has gotten away from you, and is excellent practice. Like the cross-shot, it teaches an easy sweeping motion of the rifle, which is the secret of successful snap shooting.

Catch the bell just full over your sights and keep it there while you lead it down.

30. The "BASE BALL" or INCOMING SHOT at a bell thrown at the firer by an attendant is dangerous on account of the possible glancing of the bullets in his direction, and as all chances of accident should be carefully avoided, it is better not to try it.

31. The TRAP SHOT. The glass ball traps ordinarily used in shot-gun practice, throw glass balls too far for the rifle, at first, but as the bell ball is heavier are about the proper strength for that.

The bell should not be thrown so as to fall at a greater distance than twenty-five feet, and the firer should stand right beside or just behind the trap.

Quickness of motion in getting the rifle to the shoulder becomes a habit, if persisted in and is absolutely necessary to success in this shooting.

If the learner, in beginning his practice, is sufficiently impressed with the importance of the quick first motion of getting his gun to his shoulder, the instant a mark appears he will find the chief obstacle to hitting it removed. "Buck fever" means the forgetting that one has a gun in his hands, in the absorbing interest he takes in the game in sight.

The trigger should not be pulled in a hurry, and never till sure aim has been taken. Quick action allows deliberate aim, while tardy action prevents it. I have repeated the lines urging quickness of action, because too much stress cannot be laid on it.

32. BALLS ONLY should be used as flying targets. When the beginner has attained some skill in snap shooting with a rifle, he takes justifiable pride in exhibiting it, by hitting all kind of things, such as cans, bottles, sticks, coins, pencils and stones, but it is not well to do so.

The impression given every time the rifle is discharged, ought to be a true one, but when a ball passes near the center of an irregularly shaped object without hitting it, the impression given is that the aim was defective, when it was good.

33. It is excellent practice, when you have become proficient, to see how little time it will take you to make a given number of hits, say twenty, not counting the misses as anything.

The less misses you make, the less time you will require.

The Tosser should observe the instant the breech block is replaced after the cartridge has been inserted, and throw immediately without waiting for instructions.

In order to establish a standard of quickness it may be well to state that the writer has made twenty hits in one minute and sixteen seconds, and one hundred hits in seven minutes and twenty-nine seconds.

In the first instance he made no misses, but in the second there were seven misses, making one hundred and seven shots in all; an average of about four seconds to the shot.

USEFUL HINTS.

Without attempting to treat the subject exhaustively, I will give some hints on aiming, which being taken by a beginner, will save him much time.

Long practice teaches one to hold in certain positions, under certain circumstances, but the majority of gunners cannot give reasons for their doing so.

POINT BLANK means aiming directly at the object without making visible allowance for depression or windage.

When a rifle is sighted to shoot point blank a given distance, the front sight is filed off, which acts to depress the line of the sights, or elevate the line of the bore, which is the same thing, sufficient to counteract the effect of gravity on the bullet.

When firing point blank at a given distance it is natural to suppose, though all know to the contrary, that the bullet travels in a straight line between the rifle and the target; or in other words, that the trajectory is flat, and that the line of the sights and line of the bore of the rifle are parallel.

Flat trajectory is impossible, because the instant the bullet leaves the rifle it is under the influence of gravity, and in traveling an inch even is depressed by it.

For convenience of description I will call this elevation of the line of the bore THE LINE OF ELEVATION.

I shall also term that part of the circle between the horizontal and perpendicular above, the UPPER QUADRANT; and that part between the horizontal and perpendicular below, the LOWER QUADRANT, and use the figures

on the dial of a clock to indicate the positions of hits on the target.

A gun is **CANTED** when a perpendicular line drawn from the line of the sights will not intersect the line of elevation.

"**SHOOTING STRAIGHT**" (an expression legalized by use) means hitting a target at the point which is in line with the sights.

When a rifle is canted, no matter how little, it will not shoot straight.

Unless the contrary is stated it is always supposed that you are firing point blank at the range for which the rifle is sighted.

A bullet projected from a rifle canted to one side, say the left, at right angles to the upright position, will hit half-past seven o'clock, because the line of elevation throws it to the left just as much as gravity pulls it down, to counteract which influence the rifle must be aimed at half-past one o'clock.

If the rifle be held upside down it will shoot very low, because the line of elevation and gravity both act to depress it.

Held in any position between these, the two regular causes of deflection, gravity and elevation, will influence the shot; counteracting or aiding each other with mathematical precision, as they approach or depart from each other; in the upright position, just counteracting; in the inverted position aiding each other; and in the side position pulling down at an angle of 45 degrees.

In shooting at point blank range horizontally, the line of elevation is just counteracted by gravity.

In shooting straight up or straight down there is no lateral attraction to affect the course of the bullet, gravity

acting only to aid or retard its speed, consequently the line of elevation will throw it off the target the full distance.

In shooting at any point in either the upper or lower quadrants, aim low; the lower as you approach either perpendicular.

The speed of a bullet diminishes as it travels, and as it requires much greater time to make the second than the first hundred yards, gravity has more time to depress it in that distance.

In bending backwards to shoot, remember that the rifle is inverted.

The flight of a bullet is not in a perfect curve; at first it travels almost straight, then curves gradually, then abruptly, till finally when it has lost its momentum, it drops perpendicularly, affected only by gravity.

If you are stationary and your target moves, aim ahead.

If you are in motion and your target is stationary aim behind, because your motion is given to the bullet.

If you and your target are both moving in the same direction at the same speed, near each other, aim at it, but if the distance be great, aim ahead, because your target keeps up its speed, while the momentum which you have given the bullet decreases as it travels.

The force of wind being irregular and capricious must be judged from personal observation and experience, but remember, that like gravity, it has more time to deflect a bullet during its second than during its first hundred yards flight.

Hold the gun firmly against your shoulder to prevent its kicking.

To counteract recoil, hold yourself against it by making a slight movement forward as you fire.

The general fault in aiming, in snap shooting, is over-aiming.

The front sight should always be brought well down in the rear sight, which is facilitated by having sufficient drop to the stock of the piece.

Aim at an object going straight away from you, as if it were rising.

TARGET PRACTICE

COMPARED WITH SNAP SHOOTING.

The shooting at still targets, either off-hand or from a rest, judging windage and the elevation required, nice cleaning, regular loading, etc., are very scientific and good practice for sharp shooting, but unfit one for snap shooting.

To be able to judge distance, windage, the height above or depression below the level, the speed and direction the object is moving, while you count one, two, three, is the skill which this system endeavors to teach, and which is solidly practical.

To stand for one or two minutes, with the elbow resting on the hip, and the hand twisted in an awkward position underneath the trigger guard, waiting for a season of partial paralysis to steady the aim, for any purposes other than sharp shooting, is unpractical.

To rest, either standing or lying is more unpractical still.

To be able, in spite of shaky nerves, to throw the rifle, bullet and all at the object in an instant, is practical.

A good snap shot can shoot better off-hand than from a rest, and does not close either eye, when he aims.

Keeping both eyes open comes unsought with practice, and indicates that the gun has become the servile weapon, which finds its way to its place between the eyes and the object, without demanding attention, and delivers its charge direct at the bidding of the master, whose both eyes are intently watching the course of the target.

The brain and finger become so sympathetic that the firing is done almost without bidding.

RULES

TO GOVERN COMPETITION IN SHOOTING AT BELL OR GLASS BALLS WITH A RIFLE, WHEN THE BALLS ARE THROWN UP BY HAND PERPENDICULARLY.

1. The standard calibre of the rifle shall be .22, and the standard distance fifteen feet.

2. Rifles of .28 calibre shall be handicapped two feet, those of .32 calibre four feet, those of .38 calibre eight feet, those of .40 calibre ten feet, and those of .44 calibre twelve feet.

3. THE REFEREE, whose decision shall be final, shall take position on a line at right angles to that between the firer and tosser, opposite the tosser, and see that no balls are thrown inside a perpendicular to that line. In case a ball be hit inside the perpendicular, it shall count neither for nor against the firer.

4. THE FIRER shall shoot at twenty balls and then retire, must keep the stock of his rifle below his right elbow till the ball is thrown. must shoot at each ball he orders or

lose it; is responsible for the throwing of his tosser, whom he is at liberty to choose or change at will, and also for any failure to load or cock his rifle; but is entitled to another ball, if there be a misfire on account of a defective cartridge.

5. **TIES** shall be shot off on time; the contestant *hitting* the greatest number of balls in five minutes, shooting as he pleases, at balls thrown according to the rules, shall be declared winner of the tie, provided, of course, that rifles of the same class be used by both parties.

TO GOVERN COMPETITION IN SHOOTING AT BELL OR GLASS BALLS THROWN FROM A TRAP.

1. The same trap shall be used by all contestants, and shall be made to throw the balls as nearly horizontal as possible, and so that they shall fall about twenty-five feet distant, all in the same direction.

2. Rifles of .22 calibre are standard, and entitle the firer to stand three feet in rear of the trap. Firers using .28 calibre rifles shall be handicapped to five feet back of the trap; those using .32 calibre, to seven feet back; those using .38 calibre, to eleven feet back; those using .40 calibre, to thirteen feet back; and those using .44 calibre, to fifteen feet back.

3. **THE REFEREE'S** decision shall be final, and he shall judge, among other points, if the trap throw equally for all.

4. **THE FIRER** shall shoot at twenty balls and then retire, must keep the stock of his rifle below his right elbow till the trap is sprung; must shoot at each ball he orders or lose it; is responsible for the service of his trap-puller, whom he is at liberty to choose or change at will, and also for any failure to load or cock his rifle; but is entitled to

another ball in case there is a misfire on account of a defective cartridge, or on account of the breaking of the trap.

5. TIES shall be shot off on time; the contestant *hitting* the greatest number of balls in five minutes, shooting as he pleases, at balls thrown according to the rules, shall be declared winner of the tie; provided, of course, that rifles of the same class be used by both parties.

EXHIBITION SHOTS

AT STILL OBJECTS, AND HOW TO MAKE THEM.

Shooting at a Bell-Ball, suspended by a wire about five feet in length, at a range of from thirty to fifty feet.

1. RIFLE CANTED SIDEWAYS. Aim at half-past one o'clock, two inches off.

2. RIFLE UPSIDE DOWN over the head. Aim at twelve o'clock, three inches off.

3. MIRROR SHOT. Stand with back to the target, rest the rifle on the shoulder, hold a small hand mirror back of the sights, and see the reflection of the target in a line with them. Aim at the target. This shot is difficult, because a change of position of the mirror has the same effect as moving the rifle, and steadiness of both is requisite; also, movements are seemingly reversed in the glass.

4. SNUFFING A CANDLE. The wick must be cut by the bullet.

5. EXPLODING CARTRIDGES. Shoot ten holes in a plank, place a cartridge in each hole, and explode them in ten shots. This shot is very interesting, but dangerous if the cartridges are pushed into the holes so that the shell is inserted, because a resistance is made, and the shells or parts of them are forced back towards the firer. The end

only of the bullet should be covered, and then there is no danger.

6. **CARD SHOT.** Cut a hole, the size of the barrel, in an ordinary business card, and slide it on as far as the forward sight. In looking along the line of sights with one eye, the target will be obscured; but if both eyes are left open, there will appear to be a hole in the card through which the target can be seen. The reason of this is, that while one eye looks at the sights and card, the other looks past the card at the target, and, of the double impressions conveyed to the brain, the more distinct ones of the target and sights unite in one and displace the card. In this shot aim a little to the left, the more, the nearer the target is to you, because the eyes are not focussed on the object, but are looking in parallel directions, consequently the discrepancy of aim is the distance between the eyes.

7. **THE BENDING BACKWARD OR "ATHLETIC SHOT"** is very difficult for any but gymnasts, or those who have very limber backs. Stand with the back to the target, put the rifle to the shoulder as if aiming horizontally; bend backward till you are aiming at the target with inverted rifle. Aim high, as in any shot where the rifle is turned barrel down.

8. **THE HIP SHOT** is made by holding the stock of the rifle on the hip and judging the aim. It is very difficult, but not all chance, for one can observe how his arms are held, and soon learn to *feel* if the aim be accurate.

9. Bending forward and **SHOOTING BETWEEN THE LEGS**, holding the rifle **BACK OF THE NECK**, and similar unusual shots, are good practice, and teach one to overcome adverse positions.

10. **KNOCKING THE ASHES OFF A CIGAR** in an attendant's mouth, or apples or potatoes from his head, are fool-

hardy shots, which are not brilliant, and only interest because they are dangerous. No man is sure of himself, his cartridges, or his rifle. Nervousness, a dirty rifle, a bullet which does not fill the grooves, the unsteadiness of the attendant, or other causes of inaccuracy are within the range of possibility, and any danger, especially where another is liable to be the sufferer, should be avoided and discouraged by audiences.

AT MOVING OBJECTS.

1. Shooting at a Swinging Bell and hitting it in various positions.
2. Shooting at Bells thrown up perpendicularly.
3. TURNING SHOT. Stand with back to the target and turn and hit the bell after it is thrown.
4. Hit Bells, holding the rifle in One Hand.
5. Toss the Bell up yourself and hit it, using one or both hands.
6. Cross Shot, Drop Shot, Incoming Shot, and Trap Shooting, explained in Rules for Practice.
7. Shooting at coins thrown in the air is interesting, but expensive.

SHOTS WHICH CAN ONLY BE MADE WITH A REPEATING RIFLE.

1. DOUBLE SHOT. Hitting two objects thrown in the air at the same time, reloading the rifle once.
2. TRIPLE OR QUADRUPLE SHOT. Firing into the air two or three times after an object has been thrown, and hitting it with the third or fourth bullet before it reaches the ground.
3. JUMP SHOT. Place a *light* ball, either glass or wood, on the ground three feet in front of you. Shoot three inches under it, which will project it into the air. Reload your rifle, and hit it before it falls.

4. SHOOT AS MANY HOLES AS YOU CAN IN A BOARD, one foot square, which has been thrown in the air, before it reaches the ground.

5. BREAK A BRICK with one bullet, then reload, and hit one of the pieces.

6. ORANGES, when hit hard with a bullet from a .44 calibre rifle, disappear in a shower of juice; or, if struck only lightly with the first bullet, can be hit again with a second before falling.

7. IN TIME SHOOTING with a repeating rifle, balls can be hit as fast as they can be thrown up, one at a time, by one person.

NOTE.—*The above repeating rifle shots, and many of the others, were invented by Dr. Carver and successfully made in his various exhibitions in this country and at the Crystal Palace, near London.*

FEATS

WHICH HAVE BEEN ACCOMPLISHED WITH THE
RIFLE ON MOVING OBJECTS.

The records given below have not been made in matches but in exhibitions, but are well authenticated, and will serve as Standards of Excellence.

DR. WILLIAM F. CARVER, the originator of ball shooting with a rifle, to whom great credit is due on that account, has performed many remarkable feats in his exhibitions, and one of both skill and endurance which will stand for them all.

At Brooklyn Driving Park, on Saturday July 13, 1878, he attempted to break 5500 glass balls in 8 hours, with the following result, copied from the account in *Forest and Stream, Rod and Gun*:

OFFICIAL TIME RECORD.

	Time per hundred.	Schedule Time.			Actual Time.	Ahead. Behind.		Misses.
	M. S.	H.	M.	S.	H. M. S.	M. S.	M. S.	
100	5 05		9	05	5 05	4 00		6
200	6 25		18	11	11 30	6 41		2
300	7 50		27	16	19 20	7 56		5
400	6 40		36	22	26 00	10 22		2
500	6 20		45	27	32 20	13 07		4
600	7 10		54	32	39 30	15 02		10
700	5 50	1	03	38	45 20	18 18		3
800	6 00	1	12	43	51 20	21 23		12
900	7 00	1	21	48	58 20	24 28		9
1,000	8 00	1	30	54	1 06 20	24 34		10
1,100	10 10	1	39	59	1 16 30	23 29		9
1,200	5 50	1	49	04	1 22 20	26 44		6
1,300	8 00	1	58	09	1 30 20	27 49		10
1,400	10 10	2	07	15	1 40 30	26 45		9
1,500	7 50	2	16	21	1 48 20	28 01		6
1,600	7 50	2	25	26	1 56 10	29 16		13
1,700	11 10	2	34	32	2 06 20	28 12		18
1,800	8 00	2	43	37	2 14 20	29 17		16
1,900	8 00	2	52	42	2 22 20	30 22		23
2,000	7 00	3	01	48	2 29 20	32 28		20
2,100	9 00	3	10	53	2 38 20	32 33		20
2,200	8 10	3	19	59	2 46 30	33 29		15
2,300	10 10	3	29	04	2 56 40	32 24		11
2,400	15 00	3	38	09	3 11 40	26 29		28
2,500	8 30	3	47	15	3 20 10	27 05		21
2,600	10 20	3	56	20	3 30 30	25 50		10
2,700	10 10	4	05	26	3 40 40	24 46		5
2,800	12 30	4	14	31	3 53 10	21 21		8
2,900	16 30	4	23	37	4 09 40	13 57		12
3,000	10 00	4	32	43	4 19 40	13 03		21
3,100	18 30*	4	41	48	4 58 10		16 22	16
3,200	6 30	4	50	54	5 04 40		13 46	16
3,300	7 30	4	59	59	5 12 10		12 11	10
3,400	6 30	5	09	04	5 18 40		9 36	10
3,500	8 30	5	18	10	5 27 10		9 00	11

* Rest of 32 minutes included. Actual breaking time, 6m. 30s.

	Time per hundred.	Schedule Time.			Actual Time.	Ahead. Behind.		Misses.
	M. S.	H.	M.	S.	H. M. S.	M. S.	M. S.	
3,600	11 30	5	27	15	5 38 40		11 25 22	
3,700	7 20	5	36	21	5 46 00		9 39 10	
3,800	9 10	5	45	26	5 54 10		8 44 22	
3,900	9 10	5	54	31	6 03 20		8 49 16	
4,000	9 20	6	02	36	6 12 40		10 04 24	
4,100	9 00	6	11	41	6 21 40		9 59 17	
4,200	7 30	6	20	47	6 29 10		8 23 10	
4,300	8 10	6	29	52	6 37 20		7 18 14	
4,400	6 20	6	38	58	6 43 40		4 42 6	
4,500	7 20	6	48	03	6 51 00		2 57 18	
4,600	8 20	6	57	08	7 00 20		3 12 19	
4,700	7 00	7	06	14	7 07 20		1 06 9	
4,800	7 00	7	15	20	7 14 20	1 00		13
4,900	7 00	7	24	26	7 21 20	3 06		15
5,000	7 50	7	34	31	7 29 10	5 21		16
5,100	8 10	7	43	36	7 37 20	6 16		8
5,200	6 20	7	51	42	7 43 40	8 02		18
5,300	8 20	8	00	48	7 52 00	8 48		16
5,400	8 00	8	09	55	8 00 00	9 55		21
5,500	7 30	8	20	00	8 07 30	12 30		11

Total misses..... 712

During this shoot, he used five Winchester Repeating Rifles, weighing about ten pounds each, the aggregated weight of which, raised 6212 times, was about thirty-one tons. Before the first thousand had been broken, the balls of his eyes became sunburned, and being further irritated by rubbing them with his powder-stained gloves, the pain became excruciating, but he hung to his self-imposed task and accomplished it, and left the field in company with the writer, physically unstrained. It is true that the greater number of balls were broken within fifteen feet of the end of the rifle, but it was nevertheless a wonderful exhibition of skill and endurance.

The working of the levers of the rifles, which, when heated, are said to resist over thirty pounds pressure, with the middle finger of the right hand, 6212 times, was a monstrous task in itself.

In exhibiting before the Prince of Wales at Sandringham, he broke 100 balls consecutively, and successfully made nearly all of the various shots described here.

JOHN RUTH, of Oakland, California, who was a companion of Carver during his preliminary practice, has become a successful exhibitor, and has taught his wife to shoot nearly if not quite as well as himself. At Badger's Park, in an exhibition, he hit the bell-ball 990 times out of 1000 shots, as referred to previously.

JOHN E. GRAHAM, of Erie, Pennsylvania, is reported to have made 986 hits in 1000 shots, or only 4 less than Ruth.

GEORGE A. MEARES of Salt Lake City, who is the champion rifleman of Utah, is enthusiastic in recommending this method, and claims to have derived immense benefit from it.

The late MAJOR THORNBURG was very successful at this kind of shooting, as well as perhaps hundreds of others, who have so practiced as to be able to hit 95 per cent. of balls thrown perpendicularly, but who have yet to get the best benefit from the various shots which are here recommended.

The writer, after having practiced an hour each day for about three weeks, gave a private exhibition before numerous German army officers, members of shooting clubs, and others, at Frankfort-on-the-Main, in which he made the following scores at balls thrown in the air, besides successfully making the other shots spoken of:

Ninety-nine out of 100 balls thrown up perpendicularly;
10 Turning Shots; 10 One-handed Shots; 10 Cross Shots;

10 Drop Shots; 10 Incoming Shots; 17 out of 20 from a Bogardus trap; 19 out of 20 English Pennies.

An English gentleman, who was spending his vacation in Frankfort, and who was a very indifferent shotgun shot, practiced under instruction at the same time, and as a result, before he left for home, went out several times with parties of the best shots in the vicinity, and bagged more birds than any.

FORMING CLUBS.

A range of 100 feet and a bulkhead 25 feet square is all that is required to make perfect facilities for shooting at reduced still, or running targets, or at balls thrown in any direction; and for ball shooting only, a range of 30 feet is sufficient.

A club of ten or twenty can build and run such a range anywhere, even within city limits, at a very light expense; or it is exceedingly profitable to run one and charge for the shots or ammunition, as a private enterprise.

In this manner unlimited practice can be had at a very light expense.

THE MILITARY AND SNAP SHOOTING.

It may be offered, simply as a suggestion, that the method of practice recommended in the preceding pages, might be of service in teaching recruits to handle firearms.

Practice in hitting moving objects inspires a confidence which can not be obtained in any other way, and the repetition of the three motions of loading, extracting, and

aiming and firing, habituates the learner to a free use of the arms and a confidence in pulling the trigger.

In the German army they aim and snap an unloaded piece repeatedly as an exercise, considering the pulling of the trigger a necessary finish to the motion of aiming.

Aided by a minimum expense, light report, easily-acquired range facilities, and a most-fascinating system, might not the practice be carried to firing and hitting, which is the desired result?

This need not at all interfere with the manual, but can be practiced as an outside exercise; and the result of adopting it would be felt immediately by a company, not only in the ease and quickening of motion and the improved marksmanship, but in the increased interest it would create among the members.

CALIFORNIA

PARLOR ROWING BOAT APPARATUS.

(PATENT APPLIED FOR.)

See Out and Price-List on Following Page.

AS A ROWING MACHINE

1. It teaches both arms to pull alike.
2. It compels the feathering of the oar.
3. The stroke is even throughout.
4. There is no aid or resistance to the return.
5. It is perfectly clean, as no oil should be used about it.
6. Slots in the casting, where the end of the oar is made fast to the out-rigger, permit the lifting of the blades in returning.
7. All oarsmen unite in pronouncing it a perfect teacher of rowing.
8. Men practicing in the double skull or four oared pattern must all do the same work, and their coach can stand over them and direct their actions.

AS A HEALTH PULL

1. It exercises ALL the muscles of the body and strains none.
2. It can be regulated by the set screws to accommodate any strength and size of person, and is as well adapted for the use of ladies and children as gentlemen.
3. Its use for five minutes each morning, immediately after getting out of bed, will cure any case of dyspepsia, because of the easy exercise of the muscles of the stomach, the improved respiration and the accelerated circulation of the blood.
5. The sliding seat aids fleshy people in taking the stroke, and for them is a most excellent exercise.

It takes but little room, is clean, and fascinates all, both ladies and gentlemen, because it is practical in teaching a useful and graceful accomplishment, and at the same time inviting health.

SEE NEXT PAGE.

CALIFORNIA PARLOR ROWING BOAT APPARATUS.

[PATENT APPLIED FOR.]



A perfect Rowing Machine, and the New Health Pull for Ladies, Gentlemen and Children.

(See preceding page for description.)

Four Oared Pattern with Sliding Seat, for Clubs	\$40 00
Double Scull Pattern with Sliding Seat, for Clubs.....	20 00
Single Scull Pattern with Sliding Seat, suitable for Ladies and Children, as well as Oarsmen.....	12 00
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